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ABSTRACT

A study explored the safety education provided by six newspapers, using the 1988 crash of Delta Flight 1141 as a case study. A total of 351 "Delta 1141" news stories were analyzed for five key areas: overall story category, passenger safety theme, flight personnel safety theme, plane safety theme, and rescue safety. Of the stories examined, 43% were found to contain at least one safety theme paragraph within the larger story; 34% of the identified safety themes were passenger safety themes, 24% were flight safety, 29% were plane safety, and 14% were rescue safety themes. Safety themes were embedded within a story framework which reflects the three stages of disaster news work. Images of normalcy tragically disrupted by the crash abound as do images of passengers escaping and aiding others. Disaster relief personnel and aviation officials were shown working to restore order and solve the mystery of the crash. Within this framework, people can learn what to expect when a plane crashes and what they might have to do in a similar situation. (Two tables of data are included. Contains 70 references.) (Author/RS)

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The Unexpected Education:
What we can learn from disaster news stories.

by

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A paper presented to the Mass Communication and Society Division, Association for Education in Journalism and Mass Communication 1993 Convention, Kansas City, MO. Aug. 11-14.

ABSTRACT

Disaster researchers and media scholars have long argued that the public relies on the mass media for information about what actions they should take in a disaster situation. An important question has remained unanswered however: What are the media telling us about the event and the behaviors we should engage in during a disaster?

Using the 1988 crash of Delta Flight 1141 as a case study, the paper explores the safety education provided by six newspapers. A total of 351 Delta 1141 news stories were analyzed for five key areas: overall story category, passenger safety theme, flight personnel safety theme, plane safety theme and rescue safety. Forty-three percent of the stories examined were found to contain at least one safety theme paragraph within the larger story. Thirty-four percent of the identified safety themes were passenger safety themes, 24% were flight safety, 29% were plane safety and 14% were rescue safety themes.

Safety themes are embedded within a story framework which reflects the three stages of disaster news work. Images of normalcy tragically disrupted by the crash abound as do images of passengers escaping and aiding others. Disaster relief personnel and aviation officials are shown working to restore order and solve the mystery of the crash. Within this framework we can learn what to expect when a plane crashes and what we might have to do in a similar situation.

Ask friends "what happens when an airplane crashes" and chances are they will have a view, or schema, of the likely events leading to a crash and the likely responses of the passengers. Chances are equally great that they have never been in a plane crash and that their knowledge of such events is formed by what they have read in newspapers, seen in movies or watched on television. That the mass media educate us about, and prepare us for, events distant from our everyday experience should not be surprising and, in fact, it is not. Disaster researchers and media scholars have long argued that the mass media play a key role in disaster education and that to one extent or another, the public relies on the mass media for information about the event and what actions they should take (Disasters and the Mass Media, 1980; Garner, 1987; Mileti, Drabek, & Hass, 1975; Quarantelli, 1977, 1978; Sorenson, 1983).

An important question has remained unanswered, however, and that is: What are the media telling us about the event and the behaviors we should engage in during a disaster? This study begins to address this question by looking at the safety information[1] found in newspaper coverage of an airplane disaster. While it may be clear that disaster news stories are rife with detail about an event, and that people use this information to shape their schemas about the event and what they should do (Garner, 1987; Sorenson, 1983), it is not clear what safety information, if any, is actually provided within these news stories. Indeed, it is hypothesized that safety information, if it exists, will be embedded within the retelling of the event. A story may discuss, for example, how a survivor helped a fellow passenger to open an emergency exit only to discover fire

on the other side, resulting in a search for another avenue of escape.

Using the 1988 crash of Delta Flight 1141 in Dallas-Fort Worth Texas as a case study, the paper explores the safety education provided by six newspapers in their coverage of the disaster. Such a study is certainly important for disaster mitigation and education purposes but it is also important for more clearly understanding how news stories shape our knowledge of, and potential behaviors in, events beyond our everyday lives. The paper first presents a framework for this analysis through a review of the relevant disaster and mass media literature and a discussion of disaster news work. The case study is then introduced and the key safety themes found are discussed.

The Mass Media and Disasters

In disaster situations the media are viewed as emergency-relevant organizations that serve as warning agents, relayers of disaster/hazard information to the public and as educators about appropriate disaster behavior. Research on disaster news use clearly shows that people rely on the mass media for their knowledge of the events, what they should do and what actions others will take (Blong, 1985; Garner, 1987; Sorenson, 1983). The media are also expected to provide information that will enable the public to deal with the disaster, the resulting deaths and survivor guilt (Elliott, 1989). Kreps' (1980) definition of disaster reporting highlights this multiple role. Disaster reporting includes: "...educational programs on hazard mitigation and disaster preparedness; media-advanced disaster predictions and

warnings; and media news reports of disaster impacts and resulting rescue, relief, and restoration activities" (p. 36). The mass media's role as disaster warning agent and educator is also recognized by both the Emergency Broadcast System and National Weather Service (Carter, 1980; Kreps, 1980).

Most studies on disasters and the mass media, however, have focused on the community affected and/or the role the media plays in the disaster (Carter, 1980; Christensen & Ruch, 1978; Kreps, 1980; Medsger, 1989; Quarantelli, 1989; Raphael, 1986; Rogers & Sood, 1980). More narrow studies focusing on message content are fewer in number and have centered around the inadequacies of disaster coverage and the perpetuation of disaster myths (Blong, 1985; Goltz, 1984; Scanlon & Frizzell, 1979; Scanlon, Tuukko & Morton, 1978; Quarantelli, 1978, 1988; Wenger, 1985; Wenger & Friedman, 1986). One example of the latter is the myth that in a situation where danger to life and limb is perceived to be great the public will panic and engage in other antisocial behavior. Panic is a rare phenomenon and tends to occur only under certain circumstances (Quarantelli & Dynes, 1972; Quarantelli, 1976, 1977, 1983, 1989). In airplane disasters passengers tend to engage in behavioral inaction (i.e., they do not act/respond) -- not panic. This inaction is not due to shock but to a lack of both leadership and adequate safety knowledge ("Safety Study," 1985). Other myths are noted by Wilkins (1985, 1986) and include the portrayal of a society of helpless individuals and organizations who are unable to deal with the weather, or the economic and political policies, which threaten them. The media, on the other hand, are seen as

being "highly responsible" demonstrating concern for the public and a desire to protect the public by avoiding statements likely to produce mass panic (Turner, 1980).

The work by Scanlon and others has focused on newspaper coverage of disasters and the inadequacies of that coverage (Scanlon, 1976; Scanlon, Tuukko & Morton, 1978; Scanlon & Frizzell, 1979; Scanlon & Alldred, 1982). Inaccuracies within disaster stories are common and can be found primarily in news stories which lack attribution or any source information (Scanlon et al., 1978). In addition, Scanlon and Alldred (1982) argue that disaster news content is distorted because excessive emphasis is placed on the impact period and stories of hazard mitigation are ignored. Singer and Endreny's (1987) hazard study found information about associated harms to be present in news stories but indications of hazard probability were not, making public assessment of potential risks difficult.

Finally, Vincent, Crow and Davis (1989) analyzed television journalists' accounts of plane crashes and found three overall themes: "a) the tragic intervention of fate into everyday life; b) the mystery of what caused the crash; and c) the work of legitimate authority to restore normalcy" (p. 21). These themes, they argue, help to encourage "naive beliefs about the safety of air travel" (p. 24). While the Vincent et al study has similar elements to this work, they differ on two key points. Importantly, this study centers around the safety behavior information presented in the news, not on the journalist who creates the news, and secondly, the study focuses on print, not television, coverage of airplane crashes.

In sum, scholars have looked at disaster news but the focus has been primarily on the myths and the deficiencies of news coverage. It has not focused on images of appropriate disaster behavior, including preparation and response. The research that has been done is important, however, because it has helped us to understand that people (a) do learn from the mass media and (b) that what they learn can be erroneous and/or harmful. It should be noted, however, that not all scholars see this as being problematic. In fact, Vincent et al (1989) state that "news about air crashes may serve to perpetuate naive beliefs..[and that] this handling of air crash stories can be viewed as quite responsible. Journalists might alarm millions needlessly if they exaggerated the importance of inconsistent details about an accident" (p. 24). On the other hand, this practice encourages the perpetuation of disaster myths; encourages the public's belief that flying is safe and that there is little they can do about their own safety in a disaster situation; and that relevant agencies are ensuring their safety when, in fact, this may not be happening at all. Finally, it raises important questions about the nature of disaster news work which encourages these practices. It is to this issue we now turn.

The Social Construction of Disaster News

The way in which a situation is initially interpreted and presented by the mass media can and does form the perception that most people have (including the press) about the event (Berkowitz, 1988, 1992; Garner, 1987; Tuchman, 1978). This is especially true in human-made disaster coverage where such "elements as novelty, psychological and spatial proximity of media consumers to the

victims, ... may play important roles [in news coverage]" (Lang & Lang, 1980, p. 275). Thus, the way it is defined is of utmost importance.

When confronted with a disaster the press tries to organize it, routinize it, make it appear within the realm of the normal (Berkowitz, 1992; Gans, 1979; Tuchman, 1978). They take the unpredicted, unstructured event and try to give it structure; to re-establish order. Indeed, the press can be expected to behave in a predictable pattern during times of disasters (Scanlon, 1981) and this behavior can be found within the organizational nature of news (Berkowitz, 1992; Fishman, 1980; Gans, 1979; Tuchman, 1978).

Tuchman (1973) focuses on this aspect of news and gives but brief attention to the issue of unscheduled events like disasters. Nonetheless, her work is also informative for our thinking. She notes that when the media encounter an "unscheduled" news event, like a plane crash, it is moved from unscheduled status to developing news status via the use of typification (Tuchman, 1973). This means the disaster, as event, is reported within a predictable story framework of setting, actors and plot(s) (Berger, 1982; Bird & Dardenne, 1988; Tuchmann, 1978). As observed by Berkowitz (1992) "news workers typify stories to facilitate coverage of their news...[and] a plane crash story is one of the kinds of stories for which journalists mentally rehearse and build a "story template" (p. 45). This process results in similar coverage across disasters as well as similar story themes (Berkowitz, 1992; Tuchman, 1978; Vincent, et al., 1989). Disaster coverage and disaster themes are, therefore, tied together and parallel the three main stages of

disaster news work (Berkowitz, 1992; Larson, 1980; Sood, Stockdale & Rogers, 1987; Vincent et al., 1989). Ironically, these stages also parallel the stages of a disaster itself. Drawing upon the above scholars the first stage of disaster newswork can be said to be a period of chaos wherein news workers face a shortage of information, time and available personnel. The main story theme during this period is of the tragic disruption of everyday life. The chaos period gradually shifts to one of stabilization, where information is more abundant and relevant officials, instead of eyewitnesses, become key sources of information. The work is more stable, but not routine, and story themes revolve around the mystery of the event and alternative explanations. Finally, during the third stage, news work is more manageable and more routinized. Story themes begin to focus on a return to normalcy and a restoration of order. In their discussion of plot, Vincent et al (1989) note that the drama of the events are reconstructed along the following lines:

> [The] disaster had been prophesied, but the warnings were not heeded ... Just before disaster struck, all appeared normal to the passengers and crew ... The crash caused a violent rupture in the fabric of normalcy, but after a day or two, things begin to return to normal, and life goes on ... A satisfactory explanation of the cause of the crash is found, and we are reassured that the appropriate agencies will take immediate action to avoid such accidents in the future. (p. 14)

In a television news study Berkowitz (1988, 1992) was able to observe these stages and the organization's response to an "unscheduled" news event, when an Air Force jet crashed into an airport-area hotel. He notes that these stages unfold over several days and that the story themes are not sequential but overlap during the days after the disaster. He also states that while the

work routine used to cover the disaster was similar to the everyday news work routine, there was "one key difference: It required much greater reliance on typification of story elements" (1992, p. 52).

Walters et al (1989) argue that because some disasters are hidden within a complex system, the events are hard to capture in their raw form. In an effort to explain the difficult, the media break it down into simple explanations which lack social, political or technological context (Altheide, 1976). In addition, "news sometimes uses symbols as the representation of reality and presents them as the products of forces outside human control" (Tuchman, 1978, p. 213). During the Three Mile Island incident CBS, for example, presented technological danger within a "nightly warning, nightly explanation" format whereas ABC presented a fable of a threatening nightmare which the elite could not handle (Nimmo, 1984). Disaster events, therefore, are presented as "alien, reified forces, akin to fluctuations in the weather ... affirm[ing] that the individual is powerless to battle the forces of nature or the forces of the economy" (Tuchman, 1978, p. 214).

Finally,, disasters threaten our social order and the news value of maintaining, ensuring, or reaffirming our social order is at play in disaster news stories (Cohen & Young, 1981; Gans, 1979). Embedded within this frame are issues of morality or morality plays (Gans 1980; Cohen & Young, 1981). These acts are framed with a view of what is expected and normal and show that events are always returning to normal and villains (pilots?) in the end are always punished. Thus, "the news does not limit itself to reality judgments; it also contains values, or preference statements. This

in turn makes it possible to suggest that there is, underlying the news, a picture of nation and society as it ought to be" (Gans, 1979, p. 39).

In sum, while each disaster event is unique, actual disaster news coverage is similar across time, occurrence and space. As noted, the process of doing news work and the use of typifications results in the routinization of the unexpected and the creation of similar news coverage and story themes across disasters. If this is true any news story classified as an airplane disaster would contain the same story elements and themes as any other airplane disaster news story and these elements and themes could include images of disaster behavior. It is this view of the disaster news story that shaped the theoretical framework of this study.

The Study

The study was shaped by two questions: What safety information, if any, are the mass media presenting to the public in their coverage of an airplane disaster? and What world view of aviation safety do these news stories present to the reader? It focuses on the crash of Delta 1141 at the Dallas-Fort Worth International Airport on August 31, 1988. The flight, destined for Salt Lake City, Utah, originated in Jackson, Mississippi, and had a scheduled stop-over at Dallas/Fort Worth. The plane crashed on take-off, at 9:30 a.m., killing 13 people, leaving 94 survivors. The crash selected was based on three factors: (a) type of news story, (b) time and (c) location. The type of news story had to involve an commercial airplane crash, with survivors, that had been deemed a "disaster" by the mass media. (The reason the disaster had to

include survivors is because most crashes are survivable and the disaster had to be as "typical" as possible, not an exception to the rule.) The study examined the first three days of disaster coverage by six newspapers because the pilot research revealed that the greatest amount of coverage occurrs during this time period. Their selection was based on locale of the disaster and flight origin and destination. These areas, it is believed, would have the largest amount of coverage and would be the originating source for most stories appearing in papers outside the disaster region. The papers selected for this study were: The Dallas Morning News, The Dallas Times Herald, The Houston Post, (crash site papers) The Clarion Ledger (Jackson, Miss.), The Jackson Daily News, (flight origin papers) and The Salt Lake Tribune (flight destination paper).

A disaster news story includes text, and can also include, photographs and diagrams. Studies have shown that each part of a news story, text, photograph, diagram, can be considered a story in its own right and the reader may read or examine just one part (Graber, 1984). This study recognized the intricate nature of this process and tried to account for this in both the examination and telling of the results. Finally, the overall point of the study was not the quality but the existence (or lack thereof) of the information.

A thematic analysis was deemed the most fruitful way of approaching the study. All Delta 1141 news stories and news story parts (text, photographs and diagrams) related to the disaster, over the three-day period, were analyzed. Each story was analyzed

for five key areas: overall story category, passenger safety theme, flight personnel safety theme, plane safety theme and rescue theme.[2] These categories were initially determined in a pilot study focusing on the Sioux City crash in 1989. In addition, previous research had indicated that the last four issues were of key importance for airplane passengers in their schemas about airplane safety (Garner, 1987; "Safety Study," 1985). The overall story category (meaning the central point of the story) was deemed the best way of determining the context in which the safety themes appeared. Eleven overall story categories were found:

Accident/Crash (focusing on the crash itself)
Crash Site Rescue (rescue efforts at the crash site)
Crash Site Plane (plane examination/investigations)
Passenger Stories (passengers experiences, lives, etc)
Victim Stories (stories about victims of the crash)
Rescue Workers (training, work prior to/during crash)
Other Aid (community, witnesses, helping survivors)
Previous Crash Stories (previous airplane crashes)
Op/Ed (articles re crash appearing on the Op/Ed page)
Diagrams (airplanes, crash, flight path, etc)
Other (crash stories not fitting the above category).

Briefly, passenger safety themes were defined as references to such activities as using seat belts, storing items on board the plane, opening emergency exits, and/or helping others exit the plane. For example, the following statement was coded as having a passenger safety theme: "Many of the passengers, however, reportedly escaped the wreckage on their own, many of them through the emergency exits. Some, however, had trouble with the doors" (Pusey, 1988, p. 14). Flight personnel safety themes were defined as references to pilot/flight attendant training, years flying, age, and/or activities after the crash. A statement such as "He did not get the proper readings from one of his engines. He decided to

go back to the gate" was coded as being flight safety oriented (Gamboa, 1988, p. 1). Because multiple codings were possible, this statement was also coded as a plane safety theme. Plane safety themes were defined as references to the probable cause of the crash, to meeting industry standards, and/or to the safety of similar airplanes. An example would be: "Three years ago, a Delta L-1011 Crashed at the same airport..." (Shannon, 1988, p. 2). Finally, the rescue theme was defined, in part, as references to rescue personnel training, availability to victims and/or rescue actions. For example, "D-FW airport rescuers arrived within three minutes after the jet went down" (Kerr & Laws, 1988, p. 14) was coded as having a rescue theme.

The Airplane Disaster News Story

A total of 351 disaster news stories were examined, 115 of which were photograph stories and 31 were diagram stories. (NB: Table 1 totals to more than 351 because of double coding for overall story theme.) As can be seen from Table 1, the most common overall category was the passenger story. The overall story category of "Other" had a higher number of story parts, but this was due to the mix of stories related to the crash but not to the study. Each underlined number represents the total number of disaster news stories (text, photograph and diagram). The number of photograph stories (P) and diagram stories (d) within each group are noted in parentheses after the total.

Table 1.
Overall Story Themes

Category	# Stories
Passenger Story	70 (24P/6D)
Crash Site Plane	49 (22P/9D)
Rescue Workers	30 (18P)
Accident/Crash	26 (13P/1D)
Other Aid	26 (7P/1D)
Previous Crashes	25 (5P/1D)
Victim Story	24 (8P)
Crash Site Rescue	12 (9P)
OP/ED Piece	6 (0P/0D)
Other	107 (16P/9D)

*P=photograph; D=diagram

After each news story part, as a whole, was categorized according to its overall story focus, each paragraph within the story part was then examined for "safety themes" (see footnote 2). Of the 351 stories reviewed for this study 43% were found to also contain at least one safety theme paragraph within the larger story. A total of 613 paragraphs were identified as safety theme paragraphs, 34% of which were passenger safety themes, 24% were flight safety, 29% were plane safety and 14% were rescue safety themes. Safety themes rarely appeared alone; more often than not, a story contained a mixture of all the themes. As can be seen from the Table 2 below,, some safety themes within the overall story were stronger than others but together they give the reader a view of the crash and the surrounding safety issues.

Table 2.
Safety Themes Within Overall Story Category

Story Category	Passenger	Flight	Plane	Rescue
Passenger Story	19% (137)	3% (25)	3% (24)	1% (11)
Crash Site Plane	3% (16)	9% (39)	11% (45)	1% (1)
Rescue Workers	2% (8)	1% (1)	1% (2)	10% (29)
Accident/Crash	12% (38)	2% (9)	4% (15)	3% (10)
Other Aid	2% (5)	0%	>1% (1)	11% (20)
Previous Crashes	0%	10% (8)	8% (7)	10% (8)
Victim Story	1% (2)	1% (1)	3% (3)	0%
Crash Site Rescue	13% (14)	3% (4)	6% (11)	11% (12)
OP/ED	4% (2)	6% (3)	2% (1)	4% (2)
Other	2% (20)	9% (67)	9% (72)	1% (7)

* The number in parentheses refers to the number of paragraphs actually coded as containing a safety theme for that category. (NB: The columns in Table 2 total to more than the figures cited above because of double coding for story categories.)

Before discussing how each theme manifested itself within the story categories, a brief example of how all these themes were woven together to create a story is presented.

The lead story in the Dallas Morning News serves as a good example of a theme within a theme way of story telling. The article "Piecing together the tragedy" (Minutaglio & Jacobson, 1988) was double coded as an accident/crash story and passenger story. It retells the story of the crash, beginning with a depiction of the scene before the crash ("a beautiful morning for a flight") as being normal and routine. This scene changes "in just a few minutes" to "a harrowing experience of fear, courage and unanswered questions." (The theme similarity to the Vincent et al (1989) study should be noted.) The remainder of the story tells of passenger and eyewitness experiences as the plane was crashing and afterwards.

It is within this retelling of the event, that the passenger safety theme was the strongest. Phrases such as "You were just looking for a way to get out of the plane and hope you weren't

going to die" or "Thompson saw someone struggling to pry open the emergency hatch..." conveyed not only what was happening but the steps that people took in order to escape the plane. Images of passengers struggling out of holes in the plane's structure and/or aiding their fellow passengers before escaping (or returning to the burning plane) were revealed within a chronological framework. The efforts of rescue personnel were also depicted.

> Robert Seadore, with the department of public safety at D/FW Airport, received an Alert 3 signal close to 9 a.m. ...In three minutes, Seadore and other department officers were the first paramedics on the scene. (p. 15A)

> Survivors were stumbling out of the smoke, their clothes singed and tattered. Weeks [owner of an airport shuttle company] directed some toward medical help. For a half dozen others, he started punching numbers on his mobile phone. At the foot of the wreckage, Weeks placed several calls across the country for passengers anxious to alert relatives that they had somehow survived a crash in Dallas (p. 15A)

Also conveyed were a few flight safety images with two popular themes being the training and expertise of the pilot(s) and their heroic efforts to save the plane and/or its passengers.

> "Suddenly, in the smoky darkness, he realized that the plane's pilot was buried under several feet of metal and debris. And, miraculously, the pilot was calmly, slowly guiding his passengers while he was pinned down: 'Slow down, watch your step,' the pilot said."

Most of the emphasis, however, was on the passengers and their experiences before, during, and after the crash with the connection always being made to the event itself. Two statements help to illustrate this point: "When he slid down the side of the airplane, there was some real sharp metal to the left, and he cut his finger off." "Delta officials took Geraldine Owens from the Hilton to get new glasses. Hers were shattered when she fell down the wing, escaping from the burning jet."

The story by Minutaglio & Jacobson, (1988) ends with a quote from one of the passengers that accurately sums up the underlying theme in all of the news stories "'I'm a firm believer that when it's a man's time to go, it's his time," he said. "It wasn't my time.'" The idea this imparts is that there is little one can do to prevent these events from happening and if you are caught in such a situation, whether you survive is a matter of luck or destiny. Research by the National Transportation Safety Board (NTSB) shows that this is not the case, and that a passenger's knowledge of safety practices and procedures helps to ensure his/her life, as well as the lives of their fellow passengers. Despite the underlying tone of fatalism within the story, there is another message -- that of self-help. Pictures of survivors, and images of passengers sliding down wings, finding exits (through doors or gaping holes) and aiding others, convey the idea that passengers respond to the situation and do not wait for the flight attendants or rescue personnel to assist them. This is, in fact, a true-to-life image of what is required under these situations but it is not the perception the airlines want you to have ("Safety Study," 1985) nor is it the one many passengers themselves have (Garner, 1987).

Passenger Safety Theme

The passenger safety theme was found to be the strongest within three overall story categories: accident/crash, crash site rescue and passenger stories. The passenger safety theme was found in the pictures and phrases throughout these stories and could reveal for the reader, the actions the Delta Flight 1141 passengers had to take, or wanted to take, during the event. These phrases and images

conveyed what passengers did (escape); the problems they encountered (locked doors); who they relied on and the various ways they responded to the crash. All of these stories showed that most of the Delta Flight 1141 passengers escaped the wreckage on their own; some through holes in the fuselage, others through the emergency exits. "On their own, most of the survivors had fled the plane by the time emergency workers arrived, officials said" (Tomaso & Crawford, 1988, p. 27).

Heroic acts and self-help were key themes within the passenger safety theme as the following example illustrates:

> Glim and his wife released their seat belts and made their way to the first class section, but they couldn't get out. They then went to the middle of the plane. ...[Bob Jones] was in Seat 24C, just behind the emergency exit on the right side of the plane. ...People were panicked, but nobody was pushing or shoving," he said. "It was every man for himself. None of the crew came on the public address system to give any information about what was happening or how to get off the plane." ...[Jerry Galloway] moved toward the back of the plane, where the flames were, to help a woman who seemed to be struggling with her seat belt. She escaped without his aid, so he moved to the front of the plane and helped people climb through the hole in the fuselage." (Woolley, 1988a, p. 1, 18)

Because multiple codings were possible, some passenger safety paragraphs were also coded for plane safety or flight safety themes. A paragraph with a passenger and flight safety theme was found in Tomaso and Crawford's (1988) story: "The stewardess began screaming, 'Get off! Get off!' survivors told him, and 'instincts took over and they followed orders'." References within the stories to flight personnel, other than the pilot, were rare but this is a good example of flight personnel providing the guidance most passengers seem to expect after a plane crash. It also illustrates the kind of image that most airlines wish to convey; that is, the

sense that if there is a crash, there will be someone to help you and guide you (usually a flight attendant). This appears to be an image most passengers carry with them (Garner, 1987, "Safety Study," 1985). It is, however, inaccurate, for survival of a flight attendant is no more insured than that of a passenger.

An example of the passenger and plane safety theme can be found in a story paragraph by Pusey (1988): "Bettes said he was in seat 19A, a window seat one row in front of an emergency exit." This conveys two images: First, the plane does provide avenues of escape and one of the survivors sat near this avenue. Second, for his/her own survival, it would be wise for the passenger to sit near an exit. This corresponds to a popular belief, on the part of many people who fly, that one part of an airplane is safer than another. In fact, this belief is further encouraged by statements such as the following, which was coded as plane safety: "NTSB officials said they planned to examine the seating assignments to see if a pattern of survivability emerges. Dr. Nizam Peerwani, Tarrant County's medical examiner said, however, that all of the victims had been seated in the rear of the plane" (Pusey, 1988, p. 14).

Rescue Safety Theme

The rescue safety theme was also a strong theme, especially in the crash site rescue, rescue workers, other aid, and previous crash stories. Most of the rescue images dealt with how fast the emergency personnel responded to the crash, the actions they took upon arrival, or other rescue or aid efforts.

> He said the alarm came into the police station at the south entrance within two minutes of the crash. His rescue vehicle, he said, arrived within three or four minutes. By the time he got there, fire trucks were fighting the fire, and dozens of

> survivors were off the plane. Seadore credited the generally quick rescue action to lessons learned from the 1985 crash of Delta 191. (Pusey, 1988, p. 14)
>
> Minutes after the crash, an urgent call went out to members of the D/FW chaplain corps and to other local clergy.. Many clergymen arrived without being called, airport officials said. (Brumley, 1988, p. 29)

These images were complimented by photographs depicting rescue workers tending survivors, priests and ministers providing comfort and last rites at the crash site, as well as fire fighters and medics transporting survivors to area hospitals. The airline's role in providing aid and counseling to the survivors and their families, as well as the victims' families, was also noted throughout the news stories. All of these images work to convey the sense that help is available and people will be there to tend to you, once you get off the plane.

This is not to say, however, that the image presented in these news stories is one of no aid to those trapped, or injured, and unable to escape. The following statement clearly illustrates this point.

> Taylor said he and other DPS officers arrived at the scene about three minutes after the crash. He entered the plane through the passenger door and, as the plane continued to burn and fill with smoke, Taylor and the other rescue workers found Davis unable to move and complaining of back pain. (Brumley, 1988, p. 29)

In addition, the rescue stories and rescue themes noted the value of training and previous disaster experience, especially that associated with the crash of Delta Flight 191.

> Even as emergency crews arrived, clergymen of several denominations began heading for the airport. Many had counseled relatives of victims of Delta Flight 191. (Sunde, 1988, p. 21)
>
> With the experience of the Flight 191 crash to guide them, several major hospitals in the Dallas/Forth Worth area put in

> place special procedures for just this kind of emergency. ...The plan worked very well. (Dallas Times Herald, 1988, p. 22)

Flight Safety Theme

The flight safety theme was the strongest in news stories under the category of crash site plane, previous crash, or other. The flight safety theme focused on the years of experience and training of the flight crew and pilot; the actions the pilot took just prior to the plane crash; as well as actions other pilots had taken in crashes of a similar nature.

> Capt. Larry Davis is a calm man. He's very thoughtful. He doesn't panic. ...Davis, 48, has at least 21 years of flying service. He has no history of accidents or safety violations. (Woolley, 1988b, p. 18)

> A stall also occurred in the September 1985 crash of a Midwest Express DC-9 in Milwaukee. ...Safety board investigators ruled that the stall was not to blame for the crash and that the pilot should have been able to maneuver the jet with the engine in that state. (Hanners & Talley, 1988, p. 14).

As can been seen from the first quote, references to the pilot's record, personality or temperament, and age were common. The on-board announcements that the pilot or the flight crew made to the passengers about upcoming events or appropriate actions (e.g, keep calm), were also noted within these stories, as were their actions after the crash (escaping, aiding others, etc).

> Others praised the pilot -- who was injured himself and trapped in the debris of his ruined cockpit -- for calming the passengers trying to escape through a hole in the airplane's roof and for supervising their safe exit. (Woolley, 1988b, p. 18)

Not all of the flight safety themes were positive or supportive of the flight crew, or Delta Airlines. The safety history of both Delta and D/FW International Airport were reviewed by the newspapers. The Houston Post in particular noted the problems that

Delta had had in the past (at the same time it also noted Delta's overall reputation).

> The Delta jet crash at Dallas-Fort Worth International Airport Wednesday eerily resembled the Delta L-1011 smashup at the same airport precisely three years ago last month, raising questions about the air carrier's safety record. ..[Berry] ... said the carrier's overall record is "quite good." Some industry analysts agreed, saying Delta has a reputation of a well-run, safe and financially secure airline. ...But Baron, head of the New York-based air safety group, cited a series of problems that have plagued Delta, including an instance last July when the crew of a Delta jet shut down two engines, told the passengers to get ready to crash and nearly caused the plane to plunge into the Pacific Ocean off California. There was nothing mechanically wrong with the plane. (Loddeke, 1988, p. 13)

Plane Safety Theme

The plane safety theme, like the flight safety theme, appeared to be the strongest in stories categorized as crash site plane, previous crashes, or other. A paragraph would be coded for the plane safety theme if it focused on such issues as the probable cause of the crash, recent inspections, the safety of similar planes, crashes with a similar cause and so on.

While plane safety themes focused on all aspects of the crash (cause, investigation, history), they centered primarily on the plane and its engines. References to past history of either the 727s, or the engine on these planes, framed much of the dialog within these news stories. As the sample below highlights, these stories begin with a statement that the plane which had crashed was a common and normally safe one. The story continues by citing previous problems and crashes and concludes with the somewhat reassuring statement that, again, only minor problems have occurred throughout the plane's history.

> The plane was a Boeing 727-200, a commonly used aircraft with a good safety record and powered by engines found on two-thirds of the nation's commercial jets. ... The jet was equipped with two versions of the JT8D, which many industry experts considered a reliable powerplant. ...In August 1985, a JT8D engine on a British Airtours Boeing 737 burst open when the jet was on its takeoff roll at Manchester, England, causing the jet to catch fire. ...The Milwaukee crash in September 1985 involved problems with spacers in the turbines of a different version of the JT8D engine on a Midwest Express DC-9. The aircraft used for Flight 1141 had had only minor problems in the last five years, FAA reports show. (Garcia, 1988, p. 28)

The plane safety theme also focused on the areas where surviving passengers or flight personnel sat or escaped from, and where the victims died. The following statement about flight attendant Dixie Dunn, illustrates this point. "But Wednesday, she was training a junior employee in first-class, so Dunn was sitting in the back jump seat of Flight 1411 to service the rear of the plane, where 11 of the 13 fatalities were killed by flames and smoke" (Needham, 1988, p. 16). The next statement also indicates that seating can determine your fate but with a subtle hint there is no guarantee.

> Edmond and Marian Fadal, like their traveling companions Frank and Jean Nix, gave no thought to where they would sit during Delta Flight 1141. But those seat assignments defined who lived and who died. ...They arranged in advance to sit together -- Jean Nix in window seat 20A, her husband next to her, Edmond Fadal, 63, took the aisle seat and wife Marian 65, sat just across the isle. ...[after the crash] Edmond Fadal and the Nixs unfastened their seat belts and tumbled from the plane [Mrs. Fadal died]. (Zamichow, 1988, p. 16)

The Dallas Times Herald, like the other papers, also used diagrams to help tell the story of this crash. In a diagram entitled "Cross-Section of Flight 1141" (September 1,1988, p. B5) the damage to the plane itself, the location and status of emergency exits (open/closed), as well as the location of victims were illustrated. Such diagrams locate for the reader areas of damage to the plane, as well as areas were passengers lived and

died and, like the above statements, indicate for the reader that some areas of the plane are safer than others.

World View of Aviation Safety

What then, do these news stories tell the reader about aviation safety? (By aviation safety I mean the issues we have been discussing: passenger safety, flight safety, plane safety and rescue efforts.) A final rereading, of all the news stories surveyed, resulted in the following interpretation.

An airplane crashes, disrupting the normal fabric of everyday life, and everything we trust and know in life is either ended or severely jarred. This is especially true for those directly affected by the crash, but it is also true for those of us who read about the crash. At a very basic level, airplane crashes remind us that things go wrong, and we can die. The news stories that result from these events are an interesting mix of voyeurism, affirmation and reassurance about flying and the safety of flying.

The stories are voyeuristic because they fulfill our hidden desires to know about the grotesque details of life, death and mutilation. We can read about how the plane tumbled, crashed and burned. How passenger bodies were found near a partially open but jammed exit -- their deaths attributed to fire and smoke. We also read that by some miracle there were survivors and they escaped (a second miracle?). Their stories are told over and over, in minute detail; from where they were flying to, to their thoughts as the plane was crashing, and then their thoughts and actions as they were escaping. Throughout this process we also learn that it is unusual to have so many survivors; not because of the impact, but

because 80 percent die by fire, smoke and the inability to evacuate the craft.

These stories are affirming and reassuring because against this backdrop of drama, they speak of a tradition of strong planes and flight crews. We are told of the pilot's efforts to save the plane and its passengers. We are reassured, and reassured again, that the pilot and his crew had clean safety records, years of training and were good citizens. We learn that the pilot was the last off the plane, and that despite severe injuries he helped to guide passengers though the escape hatches. We also learn that the plane is a model of durability, that its overall structure and design is strong. The plane has a long history and, with the exception of a few problems in the beginning, a safe one. We are also told that most of the plane's problems were attributed to pilot error, not the plane itself. In other words, the plane was okay when it left its place of origin and is historically safe. There is an implication that the crash might be the cause of pilot error, but we were assured that these pilots were safe and reliable. But something went wrong.

Something went wrong, when the pilot was good, the plane was strong, and the weather was fair. A mystery is established, both in real life and in the newspapers. Stories focusing on the accident, and on the plane itself, note repeatedly that investigators must look for the cause and that it will be some time before an answer is given. Nonetheless, these stories also tell repeatedly of both FAA and NTSB investigators searching the rubble for clues to the mystery. Each day it is noted that the investigators will not

speculate as to the cause of the crash, but within those same stories are further speculations as to the cause of the crash (e.g., the search revealed the incorrect position of the wings flaps controls but investigators would not speculate as to what happened). The mystery is refueled as the story reassures us that someone is trying to solve it.

Tied to the issues of flight and plane safety, are stories about the airline's safety record and that of the airport. We are told in one story that the airline has had previous incidents, especially those involving pilot violations of regulations. In another, we are told that despite these "incidents" the airline's reputation is a strong and safe one overall. Even the stock holders are confident, for the airline's stock dips for only one day. The safety reputation of the airport is also reviewed and found to be intact. In fact, both the airline and airport are praised for their handling of the disaster and how quickly everything is returned "to normal."

The issue of safety is also addressed in stories that review previous crashes and the role Congress and the FAA have played in ensuring future aviation safety. We are told that recommendations are made, and a long list is awaiting FAA action. The point is made that legislation is often enacted after a crash has happened, but the FAA denies this. Safety experts are asked what can be done and the finger is pointed back to the FAA. At the same time, the FAA and NTSB experts offer safety suggestions, such as plan your escape route each time you fly.

The stories are about the safety of aviation or, to be more precise, they reassure us that, despite this crash, flying is a safe mode of transportation. The detailed analysis of the themes within each news story reveals that safety themes are present. Those who see the safety themes may learn about evacuations, the need for safety awareness, and action, both before and after the crash. In other words, on an individual theme-by-theme basis the reader can learn a lot about aviation safety. Readers may learn that they can escape from a plane crash, and that they can, and may need to, rely upon their own resources. They may also look at these stories as a whole and see that planes crash and whether you are on the plane when it crashes, and whether you survive, are matters of luck. The reader may come away from these stories feeling that everything that can be done is being done and that even though the FAA and the airlines do not always take care of business there is little they can do.

Conclusions

The study reveals that disaster news stories contain more than inaccuracies and disaster myths. They also contain images of passenger behavior during and after a plane crash; flight personnel and rescue worker responses and training; as well as images of plane safety. In addition, it illustrates that these themes are embedded within overall story framework similar to that outlined by such scholars as Vincent, et al.(1989) and Cohen and Young (1981). This is a framework which is informed by the use of typifications and which reflects the three stages of disaster news work. Images of normalcy tragically disrupted by the crash abound as do images

of disaster relief personnel and aviation officials working to restore order. The mystery of the event is repeatedly presented along with images of possible causes and past villians. By the third day of coverage it is clear that order has been restored, life is beginning to return to normal for passengers, their families and the airline. The disaster is presented as a breakdown in our social order yet it also conveys a clear sense that there are rescue workers there to restore order in the short-term and that there are aviation officials there to restore it for the long-term. Also implied are issues of morality. Previous crashes, or near crashes, we are told, have been caused by pilot error and there is an implication that this crash was also caused by pilot error. We are assured, however, that whatever or whomever caused the crash will be found out and punished. Finally, it is within this framework that we also learn what to expect when a plane crashes and what we might have to do if ever we find ourselves in a similar position.

While it is clear from this study that disaster news stories do contain safety information that readers can draw upon to shape their own disaster preparations and responses, several questions remain. First, do the findings here hold up across airplane disasters. It would appear so based on the work of Garner (1987) and the pilot study which looked for safety themes in news coverage of the Sioux City crash in 1989. However, more studies need to be conducted. In addition, studies which focus on natural disaster news coverage need to be conducted to determine if similar safety themes appear there. More work also needs to be done to determine

what readers are learning about disaster behavior from these news stories. It is clear that they are relying on the mass media for this information but it is not clear what they are learning. Finally, disaster mitigation officials need to pay more attention to news story content and news work if they are going to rely on the mass media to educate the public about appropriate disaster responses.

Notes

[1]Safety information is defined as the practices and procedures that the public should know and follow in order to protect themselves against danger, if and when it occurs, and to preventive response measures they should follow in case of danger.

[2] The coding unit for each safety theme was the paragraph (photographs & captions were treated as 1 paragraph; paragraphs in diagrams were treated in the same manner as text paragraphs). Multiple codings were possible for both story category and safety themes. Intercoder agreement was assessed using news stories from this study and from those focusing on the Sioux City Crash in 1989 as covered by the Sioux City Journal. This was done in order to confirm that safety information was present beyond this disaster and to also test for safety theme agreement across disaster news stories. Four colleagues served as coders (two on the Delta 1141 and two on the Sioux City crashes). The mean intercoder agreement for story categories was 83% and for safety themes it was 77%.

References

Altheide, D. L. (1976) Creating reality: How TV news distorts events Beverly Hills, CA: Sage.

Berger, A. A. (1982) Media analysis techniques. Beverly Hills, CA:Sage.

Berkowitz, D. (1988) Organizational influences, ideology and the creation of local television news. Unpublished doctoral dissertation, Indiana University.

Berkowitz, D. (Spring 1992) Routine newswork and the what-a-story: A case study of organizational adaptation.Journal of Broadcasting & Electronic Media, pp. 45-60.

Bird, S. E. & Dardenne, R. W. (1988) Myth, chronicle, and story: Exploring the narrative qualities of news. In J. W. Carey (ed.), Media, myths, and narratives: Television and the press. Newbury Park, CA: Sage, pp. 67-88.

Blong, R. J. (1985) Public views on disaster response and the news media--Some australian examples Mt. Macedon, Australia: Australia Counter Disaster College.

Brandon, L.A. (1988, September 1) Coed says crash 'worst nightmare' Jackson Daily News, p. 3.

Breed, W. (1955) Social control in the news room: A functional analysis. Social Forces, 33: 326-355.

Brumley, A. (1988, September 2) Those touched by disaster reflect on frailty of life. Dallas Morning News, p. 29.

Carter, T. M. (1980) Community warning systems: The relationships among the broadcast media, emergency service agencies, and the National Weather Service. In Disasters and the Mass Media: Proceedings of the Committee on Disasters and the Mass Media Workshop 1979 Committee on Disasters and the Mass Media. Washington, D.C.: National Academy of Sciences. pp. 214-228

Christensen, L. & Ruch, C. E. (1978) Assessment of brochures and radio and television presentations on hurricane awareness. Mass Emergencies, 3:209-216.

Cohen, S. & Young, J. (1981) The manufacture of news: Social problems, deviance and the mass media Beverly Hills, CA: Sage.

Dallas Times Herald (September 1, 1988) The tragedy of Flight 1141 (editorial), p. 22.

Disasters and the mass media: Proceedings of the committee on disasters and the mass media workshop 1979 (1980) Committee on Disasters and the Mass Media. Washington, D.C.: National Academy of Sciences.

Elliott, D. (1989) Tales from the darkside: Ethical implications of disaster coverage. In Walters, L. M., Wilkins, L. and T. Walters (Eds.), Bad tidings: Communication and catastrophe Hillsdale, NJ: Lawrence Erlbaum Associates.

Fishman, M. (1980) Manufacturing the news. Austin, TX: Universisty of Texas Press.

Flood, M. (1988, September 1) Survivor of crash had just one thought -- run from flames. TheHouston Post, p. 14.

Gamboa, S. (1988, September 2). A day later, flight to Salt Lake aborted. The Salt Lake Tribune, p. 1.

Gans, H. J. (1979) Deciding what's news: A study of CBS Evening News, NBC Nightly News, Newsweek, and Time New York: Vintage Books.

Garcia, J. (1988, September 1) 727-200 has safe record The Dallas Morning News, p. 28A.

Garner, A. C. (1987) Safety communication: Toward an understanding of passenger attention to safety information on airplanes Unpublished Masters Thesis. The University of Iowa, Iowa City, IA.

Garrett, M. (1988, September 2) Flaps, engine being probed in Delta crash. The Houston Post, pp. 1, 27.

Goltz, J. (1984) Are the news media responsible for the disaster myths? A content analysis of emergency response imagery. International Journal of Mass Emergencies and Disasters, 2: 345-368.

Graber, D. A. (1984) Processing the news: How people tame the information tide New York: Longman, Inc.

Hanners, D. & Talley, O. (1988, September 1) Probe may involve stalled engine. The Dallas Morning News, pp. 1, 14A.

Kerr, K. & Laws, I. (1988, September 1) D-FW rescuer: It's a miracle anybody lived. The Houston Post, pp. 1, 14.

Kreps. G. A. (1980) Research needs and policy issues on mass media disaster reporting. In Disasters and the Mass Media: Proceedings of the Committee on Disasters and the Mass Media Workshop 1979. Committee on Disasters and the Mass Media. Washington, D.C.: National Academy of Sciences. pp. 35-74.

Lang, G. E. & Lang, K. (1980) Newspaper and TV archives: Some thoughts about research on disaster news. In Disasters and the Mass Media: Proceedings of the Committee on Disasters and the Mass Media Workshop 1979. Committee on Disasters and the Mass Media. Washington, D.C.: National Academy of Sciences. pp. 259-281.

Loddeke, L. (1988, September, 1) Latest incident raises questions about Delta's safety record. The Houston Post, p. 13.

Medsger, B. (December, 1989) Earthquake shakes four newspapers. Washington Journalismm Review, pp. 18-22.

Mileti, D. S., Drabek, T. E. & Haas, J.E. (1975) Human systems in extreme environments: A sociological perspective Program on Technology, Environment and Man. Monograph #21. The University of Colorado: Institute of Behavioral Science.

Minutaglio, B. & Jacobson, G. (1988, Sept. 1) Piecing together the tragedy. The Dallas Morning News, pp. 1, 15.

Needham, J. (1988, September 2) Flight attendant loyal to Delta. Dallas Times Herald, p. 16.

Nimmo, D. (1984) TV network news coverage of Three Mile Island: Reporting disasters as technological fables. International Journal of Mass Emergencies and Disasters, 2:115-143.

Nimmo, D. & Combs, J.E. (1985) Nightly horrors: Crisis coverage by television network news Knoxville, TN: The University of Tennessee Press.

Pusey, A. (1988, September 1) All those killed in 727's plunge are from Texas. The Dallas Morning News, pp. 1, 14.

Quarantelli, E. L. & Dynes, R. R. (1972) Images of disaster behavior: Myths and consequences. (Preliminary Paper #5). Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L. (1976) Human behavior in disaster. (Article #84) Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L. (1977) Panic behavior: Some empirical observations. In Conway, D. J. (ed). Human response to tall buildings Stroudsburg, PA. Dowden Hutchinson & Ross, Inc., pp. 335-350.

Quarantelli, E. L. (1978) Disasters: Theory and research Beverly Hills, CA: Sage.

Quarantelli, E. L. (1983) People's reactions to emergency warnings (Article #170). Newark DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L. (1988) Disaster education: Its substantive content and the target audiences. (Preliminary Paper #131). Newark, DE: Disaster Research Center, University of Delaware.

Quarantelli, E. L. (1989) The social science study of disasters and mass communication. In Walters, L. M., Wilkins, L. & T. Walters (Eds.), Bad tidings: Communication and catastrophe Hillsdale, NJ: Lawrence Erlbaum Associates.

Raphael, B. (1986) When disaster strikes: How individuals and communities cope with catastrophe NY: Basic Books, Inc.

Rogers, E.M. & Sood, R.S. (1980) Mass media communication and disasters: A content analysis of media coverage of the Andhra Pradesh cyclone and the Sahel drought. In Disasters and the Mass Media: Proceedings of the Committee on Disasters and the Mass Media Workshop 1979. Committee on Disasters and the Mass Media. Washington, D.C.: National Academy of Sciences. pp. 139-157.

Safety study--Airline passenger safety education: A review of methods used to present safety information. (1985) (Report No. NTSB SS-85/09). Washington, DC: National Transportation Safety Board. (NTIS No. PB859-17014).

Scanlon, J. (1976) The not so mass media: The role of individuals in mass communication. In G. Stuart Adam (Ed), Journalism, communication and the law Scarborough, Ontario: Prentice Hall of Canada, pp 104-119.

Scanlon, J. & Frizzell, A. (1979) Old theories don't apply: Implication of communications in crises. Disasters, 3, 315-319.

Scanlon, J., Tuukko, R., & Morton, G. (1978) Media coverage of a crises. Better than reported, worse than necessary. Journalism Quarterly, 55, 66-72.

Scanlon, J. & Alldred, S. (1982) Media coverage of disasters: The same old story. Emergency Planning Digest, 9(October-December): 13-19.

Shannon, K. (1988, September 2) Pilots sensed trouble before crash. The Salt Lake Tribune, pp. 1, 2.

Singer, E. & Endreny, P. (1987) Reporting hazards: Their Benefits and Costs. Journal of Communication, 37(3); 10-26.

Sood, R., Stockdale, G., & Rogers, E.M. (1987) How the news media operate in natural disasters. Journal of Communication, 37(3): 27-41.

Sorenson, J. J. (1983) Knowing how to behave under the treat of disaster. Environment and Behavior, 15(4), 438-457.

Sunde, S. (1988, September 1) Two dramas unfold -- rescue and reassurance. Dallas Times Herald, p. 21.

Tomsho, R. (1988, September 2) 'How uncanny can it be?' Next flight 1141 aborted. Dallas Morning News, pp. 1, 25.

Tomsho, B. & S. Crawford (1988, September 1) Crash scene was surprisingly calm, crisis workers say. The Dallas Morning News, pp. 25, 27.

Tuchman, G. (1973) Making news by doing work: Routinizing the unexpected. American Journal of Sociology, 79(1), 110-131.

Tuchman, G. (1978) Making news: A study in the construction of reality. New York: Free Press.

Vincent, R. C., Crow, B. K. & Davis, D. K. (1989) When technology fails: The drama of airline crashes in network television news. Journalism Monographs, 117.

Walters, L. M., Wilkins, L., & Walters, T. (1989) Bad tidings: Communication and catastrophe Hillsdale, NJ: Lawrence Erlbaum Associates.

Wenger, D. (1985) Local and national media coverage of disaster: A content analysis of the print media's treatment of disaster myths. (Preliminary paper #99). Newark, DE: University of Delaware, Disaster Research Center.

Wenger, D. & Friedman, B. (1986) Local and national media coverage of disaster: A content analysis of the print media's treatment of disaster myths. International Journal of Mass Emergencies and Disasters, 4, 27-50.

Wilkins, L. (1985) Television and newspaper coverage of a blizzard: Is the message helplessness? Newspaper Research Journal, 6:50-65.

Wilkins, L. (1986) Media coverage of the Bhopal disaster: A cultural myth in the making. International Journal of Mass Emergencies and Disasters, 4:7-33.

Wilkins, L. & Patterson, P. (1987) Risk analysis and the construction of news. Journal of Communication, 37(3), 80-92.

Woolley, B. (1988, September 1) Passengers relive horror of escape. Dallas Times Herald, pp. 1, 18.

Woolley, B. (1988, September 2) Delta pilot praised for handling jet. Dallas Times Herald, p. 18.

Zamichow, N. (1988, September 2) Couples' fate rested in seating. Dallas Times Herald, p. 16.